REMARKS

In the Office Action dated October 9, 2003, the Examiner rejected all pending claims as anticipated by or obvious in view of Biersack '907 and Lechner '747. Applicant have amended the claims and traverse the rejections for the reasons set forth below.

§ 102 Rejections

Claim 32

In support of the rejection of the claims under 35 U.S.C. § 102, the Examiner states that Biersack teaches cutting blades 6 and macerating means 33, and that Lechner teaches blades 48 and macerating means 44.

Applicant have amended claim 32 to incorporate the limitations of claims 36, 37, and 38, which have been cancelled. As amended, claim 32 now requires that:

- the drive shaft or hub extends through a wall of the housing,
- the mounting plate is spaced from the wall,
- the drive shaft or hub between the wall and the mounting plate is enclosed by a shroud,
- the shroud abuts and is secured to the housing at one end and terminates adjacent the mounting plate at the other end, and that
- the one or more macerating means is adapted to pass in close proximity to the shroud as the rotor rotates.

To facilitate the Examiner's understanding of the concepts recited in this manner, copies of selected Figures from the original specification are attached hereto as Exhibit A and illustrate one exemplary embodiment of the claimed invention. On the attached copies, the shroud is highlighted in yellow and the illustrated embodiments of a macerating means are highlighted in blue. Bolt heads 64 are not highlighted, but may optionally be considered part of the macerating means.

Applicant respectfully submits that these amendments clearly distinguish over the devices taught by the art of record. In particular, neither reference teaches the use of a shroud enclosing the drive shaft or hub, where the shroud extends between the wall or housing and the plate of the rotor. Likewise, neither reference teaches the use of a shroud in conjunction with macerating means that pass in close proximity thereto. It should be noted that the tabs 5 of Biersack and tapping sheets 54 of Lechner are not macerating means and do not pass in close proximity to their respective drive shafts.

As disclosed in the present specification, the shredding apparatus of the present invention is capable of handling palm fronds due to the arrangement of the macerating means. Prior art

machines are not able to efficiently handle palm fronds, which typically wrap around the drive shaft or the rotor and eventually cause the motor to stall.

For example, in Biersack, palm fronds wrap around the arms 33 when they are fed through the hopper 21. Moreover, due to their very flexible nature and high resilience, palm fronds will pass through the slots 4 and wrap around the shaft 24 beneath the support plate 1 of Biersack. Similar problems occur when palm fronds are fed into the machine of Lechner.

In contrast, the present invention overcomes the problem of palm fronds choking the rotor and stalling the motor by providing macerating means between the rotor and the housing. Claim 32 as now written requires that the macerating means pass in close proximity to the shroud as the rotor rotates. Thus, palm fronds that enter the chamber are torn apart by the action of the macerating means, thereby preventing them from wrapping around the drive shaft. None of the cited art teaches or suggests a shredding apparatus in accordance with the present claims. By providing a mechanism that allows the present shredding apparatus to shred palm fronds without becoming jammed, the present invention solves a long-felt need in the industry.

Claims 39 and 40

In a preferred form, the macerating means co-act with protuberances secured to the housing. Further reciting this aspect of the present invention, claim 39 requires that "said one or more macerating means is also adapted to co-act with one or more complementary protrusions on or secured to said housing and to pass in close proximity to said one or more complementary protrusions and said shroud as said rotor rotates." Similarly, claim 40 requires that "said one or more macerating means includes a block, lug or blade which is adapted to pass in close proximity to said one or more complementary protrusions and to force refuse into engagement with said complementary protrusions." None of the art of record teaches or suggests a shredding apparatus in which complementary means on the rotor and the housing work together to shred refuse. Therefore, claims 39 and 40 are allowable because they depend from an allowable base claim and because they recite limitations that are neither anticipated by nor obvious in view of the art.

Claim 56

In certain embodiments of the present invention, the drive shaft extends through the upper wall of the housing and refused is fed onto the upper side of the mounting plate. In particular, claim 56 has been amended to depend directly from claim 32 and to require that the drive shaft or

hub extend through an upper wall of the housing, such that refuse is fed onto the same side of the mounting plate as the side on which the drive shaft is positioned. This arrangement allows the engine to be mounted above the housing, unlike the devices of Biersack and Lechner. Biersack and Lechner each rely on an electric motor mounted underneath the housing. As is known, it is not as practical to place a gasoline-powered engine below the housing.

The present, same-side mounting arrangement of the drive shaft and feed hopper of the present invention is desirable because it allows a gasoline powered engine to be used with the present shredding apparatus, while also allowing for palm fronds and other refuse to be shredded without becoming entangled on the drive shaft. It the feed hopper and the motor are both on the upper side of the rotor (as is desirable), the drive shaft must necessarily traverse the space between the engine and the rotor mounting plate. Without the features recited in the present claims, this desirable configuration would not be workable. In contrast, the devices of the prior art avoid the entanglement problem by placing the engine and feed hopper on opposite sides of the rotor. Because the present invention solves a problem that is not even present in the devices of the cited art, it would not be obvious to modify the teachings of the art to achieve the claimed invention.

For all of the foregoing reasons, applicants respectfully submit that the claims as amended are allowable over the art.

New Claims

New independent claim 94 recites certain features similar to those recited in claim 56, namely those related to a configuration in which the drive shaft extends through the upper wall of the housing and the refuse inlet is arranged such that refuse is fed on to the same side of the mounting plate as that on which the drive shaft is mounted. As mentioned above, neither Biersack nor Lechner teach or suggest an arrangement in which refuse can be fed onto the same side of the mounting plate as that on which the drive shaft is located, and are macerated by macerating means that are likewise located on the same side as the feed hopper and drive shaft. Hence, claim 94 is distinguishable over the art.

Claims 95 to 107 depend from allowable base claim 94 and generally correspond to claims 36-50.

Conclusion

Applicants respectfully submit that the present amendments place the claims in condition for allowance. Applicants therefore request that the Examiner reconsider and withdraw the rejections and allow the case. If the Examiner has any questions or comments, or otherwise feels it would be helpful, he is encouraged to telephone the undersigned at (713) 238-8043.

Respectfully submitted,

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